

Serial No. 09/201,530
Page 2 of 19

IN THE CLAIMS

Please amend claim 1 as follows:

- Sab YH*
- RE*
1. (Currently Amended) Apparatus for providing demand television comprising:
a broadcast encoder for encoding a video frame sequence to form a broadcast
bitstream;
a storage encoder for encoding the video frame sequence to form a storage
bitstream;
a transmission system for transmitting the broadcast bitstream to subscriber
equipment;
a storage device for storing the storage bitstream[[;]] wherein the storage device
stores the storage bitstream at the same time that the transmission system transmits
the broadcast bitstream; and
wherein said storage bitstream contains a plurality of bitstream types including at
least a play bitstream and a fast forward bitstream, and said fast forward bitstream
contains an indicator that delimits the end of available data such that a transition from
said fast forward bitstream to at least one of said broadcast bitstream and said play
bitstream is appropriate.
2. (Original) The apparatus of claim 1 wherein said broadcast encoder is a high
data rate encoder.
3. (Original) The apparatus of claim 1 wherein said video frame sequence is a
real-time video frame sequence.
4. (Original) The apparatus of claim 1 wherein said storage bitstream contains play
and trick play bitstreams.
5. (Previously Presented) The apparatus of claim 1 wherein said storage encoder
comprises:
a first encoder for producing said play bitstream that contains information that,
when decoded, produces a forward play video frame sequence;

Serial No. 09/201,530
Page 3 of 19

a frame subsampler;
a buffer that stores subsampled frames of the video sequence;
a second encoder for producing said fast forward bitstream that contains information that, when decoded, produces a fast forward video frame sequence;
a third encoder for producing a fast reverse bitstream that contains information that, when decoded, produces a fast reverse video frame sequence; and
a controller that selects subsampled frames from the buffer and couples to selected frames to the second and third encoders.

6. (Original) The apparatus of claim 5 wherein said first encoder is an MPEG encoder that encodes N frames of the video sequence.

7. (Original) The apparatus of claim 6 wherein said second and third encoders are MPEG encoders that encodes N subsampled frames.

8. (Previously Presented) The apparatus of claim 5 wherein the controller multiplexes selection of the frames from the buffer to apply a plurality of subsampled frames to said second encoder to form said fast forward bitstream and then apply a plurality of subsampled frames to said third encoder to form said fast reverse bitstream.

9. (Previously Presented) A method for providing demand television comprising the steps of:

encoding, in real-time, a broadcast video frame sequence to form a broadcast bitstream, while at the same time encoding the broadcast video frame sequence to form a storage bitstream;

broadcasting the broadcast bitstream to subscriber equipment;

storing the storage bitstream within a storage device;

upon a subscriber selecting to view information previously broadcast by the broadcast bitstream, transmitting to the subscriber the storage bitstream;

wherein said storage bitstream contains a plurality of bitstream types including at least a play bitstream and a fast forward bitstream, and said fast forward bitstream contains an indicator that delimits the end of available data such that a transition from said fast forward bitstream to at least one of said broadcast bitstream and said play bitstream is appropriate.

Serial No. 09/201,530
Page 4 of 19

10. (Original) The method of claim 9 wherein said broadcast bitstream is a high data rate bitstream.

11. (Original) The method of claim 9 wherein the storage bitstream contains a play bitstream and a trick play bitstream.

12. (Previously Presented) The method of claim 9 wherein said storage bitstream encoding step comprises the steps of:

encoding said frames to form said play bitstream;
subsampling said broadcast video frames;
buffering said subsampled frames;
recalling said buffered frames in a forward time sequence order;
encoding said recalled buffered frames to form said fast forward bitstream;
recalling said buffered frames in a reverse time sequence order;
encoding said recalled buffered frames to form a fast reverse bitstream.

13. (Previously Presented) The method of claim 12 wherein said play bitstream when decoded forms a standard play frame sequence.

14. (Previously Presented) The method of claim 12 wherein said fast forward bitstream, when decoded, forms a fast forward frame sequence.

15. (Previously Presented) The method of claim 12 wherein said fast reverse bitstream, when decoded, forms a fast reverse frame sequence.

16. (Original) The method of claim 9 wherein said storage bitstream contains a plurality of bitstream types and said storage bitstream transmitting step further comprises the steps of:

recalling from said storage device a particular bitstream in response to a request for a particular bitstream type from a subscriber terminal;
addressing the requested bitstream to said requesting subscriber;
transmitting said requested bitstream to said subscriber equipment.

17. (Previously Presented) The method of claim 16 wherein said storage bitstream types include a fast reverse bitstream.

Serial No. 09/201,530
Page 5 of 19

18. (Previously Presented) The method of claim 17 wherein the method further comprises a step of switching from transmitting a fast forward bitstream to transmitting said broadcast bitstream upon reaching the indicator.

19. (Previously Presented) A method for providing demand television comprising the steps of:

encoding, in real-time via a first encoder, a broadcast video frame sequence to form a broadcast bitstream, while contemporaneously encoding, via a second encoder, the broadcast video frame sequence to form a storage bitstream;

broadcasting the broadcast bitstream to subscriber equipment;

storing the storage bitstream within a storage device;

upon a subscriber selecting to view information previously broadcast by the broadcast bitstream, transmitting to the subscriber the storage bitstream; and

upon a request from a subscriber, switching from decoding said storage bitstream to decoding said broadcast bitstream.

23. (Previously Presented) A method of providing demand television comprising the steps of:

encoding, in real-time via a first encoder, a broadcast video frame sequence to form a broadcast bitstream, while at the same time contemporaneously encoding, via a second encoder, the broadcast video frame sequence to form a storage bitstream;

transmitting said broadcast bitstream to a plurality of subscriber equipment for decoding;

storing said broadcast bitstream as a storage bitstream while said broadcast bitstream is being transmitted;

upon said subscriber equipment requesting said storage bitstream to enable review of information contained in said broadcast bitstream, transmitting said storage bitstream to said subscriber having requested the storage bitstream;

wherein said storage bitstream comprises at least a play bitstream and a fast forward bitstream, and upon said fast forward bitstream being exhausted of data, automatically switching from said storage bitstream to said broadcast bitstream.

24. (Previously Presented) A method of providing demand television comprising the steps of:

Serial No. 09/201,530
Page 6 of 19

encoding, in real-time via a first encoder, a broadcast video frame sequence to form a broadcast bitstream, while contemporaneously encoding, via a second encoder, the broadcast video frame sequence to form a storage bitstream;

transmitting said broadcast bitstream to a plurality of subscriber equipment for decoding;

storing said broadcast bitstream as a storage bitstream while said broadcast bitstream is being transmitted;

upon said subscriber equipment requesting said storage bitstream to enable review of information contained in said broadcast bitstream, transmitting said storage bitstream to said subscriber having requested the storage bitstream; and

upon said subscriber equipment requesting said broadcast bitstream, switching from said storage bitstream to said broadcast bitstream.

25. (Previously Presented) The method of claim 19, wherein said storage bitstream comprises at least a play bitstream and a fast forward bitstream, and upon said fast forward bitstream being exhausted of data, automatically switching from said storage bitstream to said broadcast bitstream.

26. (Previously Presented) The method of claim 23 wherein said storage bitstream comprises a fast reverse bitstream.

27. (Previously Presented) The method of claim 23, wherein upon said subscriber equipment requesting said broadcast bitstream, switching from said storage bitstream to said broadcast bitstream.